III. AMENDMENTS TO THE CLAIMS

The listing of claims that follows is complete, and replaces any previous listing of claims. What is claimed is:

1. (Currently amended) A computer-implemented security system for securing an electronic version of a nucleotide chain, comprising:

a system for identifying coding and non-coding regions in the nucleotide chain; ~~and~~

a system for selectively encrypting only the coding regions identified in the nucleotide chain; and

a system for outputting the electronic version of the nucleotide chain, including the encrypted coding regions and the unencrypted non-coding regions.

2. (Currently amended) The computer-implemented security system of claim 1, wherein the system for outputting further ~~comprising~~ comprises a system for transmitting encrypted coding regions and unencrypted non-coding regions.

3. (Currently amended) The computer-implemented security system of claim 2, wherein the system for transmitting encrypted coding regions and unencrypted non-coding regions includes at least one XML document.

4. (Currently amended) The computer-implemented security system of claim 2, wherein the system for transmitting encrypted coding regions and unencrypted non-coding regions includes web services.

5. (Currently amended) The computer-implemented security system of claim 1, wherein the system for selectively encrypting only the coding regions utilizes cipher block chain encrypting.

6. (Currently amended) The computer-implemented security system of claim 2, further comprising:

a system for receiving the encrypted coding regions and unencrypted non-coding regions;

a system for decrypting the encrypted coding regions; and

a system for regenerating the nucleotide chain from the decrypted coding regions and unencrypted non-coding regions.

7. (Currently amended) The computer-implemented security system of claim 6, wherein the system for receiving the encrypted coding regions and unencrypted non-coding regions comprises a bioinformatics database for receiving nucleotide chain queries.

8. (Currently amended) A method for transmitting a nucleotide chain, comprising:

identifying coding and non-coding regions in the nucleotide chain;

selectively encrypting only the coding regions identified in the nucleotide chain to generate encrypted coding regions and unencrypted non-coding regions; ~~and~~

transmitting the encrypted coding regions and unencrypted non-coding regions;

receiving the encrypted coding regions and unencrypted non-coding regions;

decrypting the encrypted coding regions;

regenerating the nucleotide chain from the decrypted coding regions and unencrypted non-coding regions; and

outputting the regenerated nucleotide chain.

9. (Canceled)

10. (Currently amended) The method of claim [[9]] 8, comprising the further step of querying a bioinformatics database with the received nucleotide chain.

11. (Original) The method of claim 8, wherein the encrypted coding regions and unencrypted non-coding regions are transmitted in at least one XML document.

12. (Original) The method of claim 8, wherein the encrypted coding regions and unencrypted non-coding regions are transmitted using web services.

13. (Original) The method of claim 8, wherein the step of selectively encrypting only the coding regions utilizes cipher block chain encrypting.

14. (Currently amended) A program product stored on a recordable medium for encoding a nucleotide chain, comprising:

means for identifying coding and non-coding regions in the nucleotide chain; ~~and~~

means for selectively encrypting only the coding regions identified in the nucleotide chain; and

means for outputting the encrypted coding regions and the non-encrypted non-coding regions.

15. (Original) The program product of claim 14, wherein the encrypted coding regions and unencrypted non-coding regions are stored in at least one XML document.

16. (Original) The program product of claim 14, wherein the means for selectively encrypting only the coding regions utilizes cipher block chain encrypting.

17. (Currently amended) A program product stored on a recordable medium for decoding an encoded nucleotide chain, comprising:

means for identifying coding and non-coding regions in the encoded nucleotide chain;

means for selectively decrypting only the coding regions identified in the encoded nucleotide chain; ~~and~~

means for reassembling the coding and non-coding regions to generate a decoded nucleotide chain; and

means for outputting the decoded nucleotide chain.

18. (Original) The program product of claim 17, wherein the coding regions and non-coding regions are stored in at least one XML document.

19. (Original) The program product of claim 17, wherein the means for selectively decrypting only the coding regions utilizes cipher block chain decrypting.

20. (Original) The program product of claim 17, further comprising means for querying a bioinformatics database with the decoded nucleotide chain.